REMARKS

The Office Action dated September 30, 2009, has been received and carefully noted. The above amendments to the claims and drawings, and the following remarks, are submitted as a full and complete response thereto.

Claims 1-18, 20 and 22-25 have been amended to more particularly point out and distinctly claim the subject matter of the invention. New claims 28-33 have been added. No new matter has been added. Claims 26 and 27 have been cancelled without prejudice or disclaimer. Thus, claims 1-25 and 28-33 are currently pending in the application and are respectfully submitted for consideration.

On pages 2-4, the Office Action provisionally rejected claims 1, 11, 18, 26 and 27 on the ground of non-statutory obviousness-type double patenting as allegedly being unpatentable over claims 1, 10 and 17 of U.S. Appln. Serial No. 10/655,252. Because both the present application and U.S. Appln. Serial No. 10/655,252 are co-pending, neither has issued as a U.S. patent as of yet and further, claims may change during patent prosecution. For example, the presently pending claims have been amended above. Applicants, therefore, respectfully request that the present rejection be withdrawn as moot.

On page 4, the Office Action objected to claim 5 due to informalities. Specifically, the Office Action stated that "[i]t appears that claim 5 depends on claim 1". Claim 5, as presently pending, depends from claim 1. Withdrawal of the objection is, therefore, respectfully requested.

On pages 4 and 5, the Office Action objected to Figs. 1 and 3-7 as showing "only the numbers without labels. The appropriate labels are required to identify corresponding numbers shown in the figures." Figures 1 and 7 have been amended to include additional text labels. It is unclear what additional text labels would be helpful or necessary in Figures 3-6. If such labels are necessary, it is respectfully requested that a subsequent Office Action more specifically identify what text labels are needed. Applicants respectfully note that 37 CFR 1.87(o) indicates that descriptive text in the figures should be minimized: "Suitable descriptive legends may be used subject to approval by the Office, or may be required by the examiner where necessary for understanding of the drawing. They should contain as few words as possible." Accordingly, it is respectfully submitted that the objection is overcome and respectfully requested that the objection be withdrawn.

Claims 1-27 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Zimmerman et al. (U.S. Patent No. 6,785,252) in view of Scholefield et al. (U.S. Patent No. 5,752,193). The Office Action took the position on pages 6-29 that the combination of Zimmerman et al. and Scholefield et al. teaches all of the features of the rejected claims. Applicant respectfully traverses the rejection. Reconsideration of the claims is respectfully requested.

Independent claim 1, from which claims 2-10 depend, recites an apparatus including at least one processor and at least one memory including computer program code. The at least one memory and the computer program code are configured to, with

the at least one processor, cause the apparatus at least to monitor a predetermined parameter indicating a channel capacity in a received data stream of at least one of a plurality of channels and to determine a request for change of a maximum channel capacity allocated to the at least one of the plurality of channels when a value of the monitored predetermined parameter falls outside a predetermined allowed range.

Independent claim 11, from which claims 12-17 depend, recites an apparatus including at least one processor and at least one memory including computer program code. The at least one memory and the computer program code are configured to, with the at least one processor, cause the apparatus at least to set a predetermined parameter indicating a channel capacity to a value outside a predetermined allowed range to request a change of a maximum channel capacity.

Independent claim 18, from which claims 19-25 depend, recites a method including monitoring a predetermined parameter indicating a channel capacity in a received data stream of at least one of a plurality of channels and determining a request for change of a maximum channel capacity allocated to the at least one of the plurality of channels when a value of the monitored predetermined parameter falls outside a predetermined allowed range.

As will be discussed below, Zimmerman et al. and Scholefield et al., both individually and in combination, fail to teach or suggest all of the features of the presently pending claims.

Zimmerman et al. generally discusses "a method and apparatus for a[n allegedly] self-correcting bandwidth request/grant protocol in a communication system" (column 1, lines 26-28).

> The present [allegedly] inventive self-correcting bandwidth request/grant protocol utilizes a combination of incremental and aggregate bandwidth requests. In accordance with the present [allegedly] inventive protocol, CPEs primarily transmit incremental bandwidth requests to associated and respective base stations. The CPEs also periodically transmit aggregate bandwidth requests to their associated base stations. By primarily requiring incremental bandwidth requests, the possibility that a base station will erroneously issue duplicate bandwidth allocations to the same CPE for the same connection is vastly reduced. Race conditions that may have occurred when only aggregate bandwidth requests are transmitted are eliminated by requiring the CPEs to request bandwidth in an incremental manner.

(Column 5, line 59, through column 6, line 5, of Zimmerman et al.).

Scholefield et al. generally discusses "an [allegedly] improved method and apparatus for communicating data in a wireless communications system" (column 1, lines 7 and 8).

> A presently preferred embodiment of the [alleged] invention is a system for allocating one or more subchannels based on priority of user data. After receiving a control message including a current priority service level message from a base station, a subscriber unit determines whether or not to send an access request for one or more subchannels. Upon receipt of an allocation/access request, the system infrastructure determines from the access request whether to allocate the subchannel(s) to the subscriber unit. Periodically further access requests are received and scheduled and, when a higher priority message is received, completion of a lower priority message is deferred and the higher priority request allowed to proceed. Thus, an [allegedly] improved, access procedure is provided that allows for quicker access times as the priority of the data traffic increases. In a further embodiment, plural subchannels are requested and, when allocated, a data packet is fragmented into plural data units and each data unit sent via a different subchannel. Because the effect of the fragmenting and

> transmission on different subchannels is similar to that of interleaving the original data packet, a[n allegedly] more robust and higher throughput can be achieved with the [alleged] present invention.

(column 2, line 58, through column 3, line 13, of Scholefield et al.).

Independent claim 1 recites, in part, that the apparatus is caused at least to "monitor a predetermined parameter indicating a channel capacity in a received data stream of at least one of a plurality of channels". Independent claim 18, which has its own scope, recites similar features. Applicant respectfully submits that the cited art fails to teach or suggest these features.

According to claim 1, instead of providing an explicit signaling, a predetermined parameter indicating a channel capacity **is monitored**, and a request for change of a maximum channel capacity is determined **when a value of the monitored predetermined parameter falls outside a predetermined allowed range**. Thus, the scheduled data source determines itself when the change of the maximum capacity is required and does not need any explicit request from the scheduling means. Thus, the claimed invention avoids explicit signaling between a centralized scheduling functionality and a scheduled data source without introducing latency or estimation errors introduced by conventional blind detection schemes.

On the other hand, the scheduling apparatus discussed in Zimmerman et al. clearly still relies on **explicit bandwidth requests**, wherein a self-correcting option is provided for correcting lost incremental bandwidth requests. This is achieved based on aggregate bandwidth requests, which are used by base stations to reset their records so as to

correctly reflect the current bandwidth requirements of their associated customer premises equipment (CPE). According to pages 6 and 7, the Office Action apparently interpreted the received bandwidth request as the monitored predetermined parameter indicating a channel capacity. The base station checks for the available bandwidth and performs a bandwidth allocation algorithm to allocate bandwidth to the CPE that had requested bandwidth. However, Applicant in unable to find any teaching or suggestion in Zimmerman et al. that it is checked that a received bandwidth request falls outside a predetermined allowed range. Consequently, the bandwidth request cannot reasonably be interpreted as the claimed monitored predetermined parameter. Moreover, the bandwidth request of Zimmerman et al. does not indicate a channel capacity in a received data stream. Rather, it is merely used to request additional bandwidth.

Scholefield et al. relates to a rather different technical context, where a mobile subscriber determines whether to send an access request for a plurality of subchannels to a base station. Upon receipt of the access request, the system determines from the access request whether to allocate subchannels to the subscriber. When a higher priority message is received, completion of a lower priority message is deferred and the higher priority request is allocated. To achieve this, a current service priority message is broadcast, which communicates a minimum QoS grade/priority for incoming traffic, so as to prevent more than peak loading of the access and/or traffic channels. Each mobile station having data to transfer determines in its processor the priority level of the data message, and inhibits any access request if the priority level is less than the current

priority service level (see column 6, lines 31-49, of Scholefield et al.). It is thus unclear why a person of ordinary skill in the art would allegedly start with Zimmerman et al., which relates to bandwidth scheduling, and then refer to Scholefield et al., which relates to access requests for plural subchannels. Moreover, Scholefield et al. is still related to **explicit signaling** using access requests and provides the teaching of inhibiting explicit signaling when a minimum priority level is not reached.

In contrast thereto, claim 1 recites monitoring a predetermined parameter indicating a channel capacity (and not a priority level as in Scholefield et al.) and determining a request for change of a maximum channel capacity when a value of the monitor predetermined parameter falls outside a predetermined allowed range. Accordingly, explicit requests are no longer required since the scheduled unit determines a change of the maximum channel capacity whenever the monitored parameter falls outside the predetermined range. In view of the above, Applicant respectfully submits that the combination of Zimmerman et al. and Scholefield et al. would not result in the features recited in claim 1.

Independent claim 11 recites, in part, that the apparatus is caused at least to "set a predetermined parameter indicating a channel capacity to a value outside a predetermined allowed range to request a change of a maximum channel capacity." The Office Action appeared to allege that Figs. 1 and 8 and column 2, lines 17-28, of Zimmerman et al. teach a base station 106 setting a predetermined parameter indicating a channel capacity to a value outside a predetermined allowed range, as claimed. However, the cited section

of Zimmerman et al. merely generally discusses how the amount of dedicated bandwidth is determined. Nothing is cited or found in Zimmerman et al. that teaches or suggests setting a value to outside of a predetermined range, as claimed. Further, nothing is cited or found in Scholefield et al. that teaches setting such a parameter value to outside of a predetermined allowed range. Instead, column 6, lines 31-49, of Scholefield et al. generally discusses that a subscriber may alter the data priority level to a level high enough to permit access requests.

Claims 26 and 27 have been cancelled without prejudice or disclaimer. Claims 2-10, 12-17 and 19-25 depend from independent claims 1, 11 or 18 and add further features thereto. Thus, the arguments above with respect to the independent claims also apply to the dependent claims.

Per the above, Zimmerman et al. and Scholefield et al., both individually and in combination, fail to teach or suggest all of the features of the above-rejected claims under 35 U.S.C. § 103(a). Accordingly, it is respectfully submitted that the rejection is overcome and respectfully requested that the rejection be withdrawn.

For at least the reasons presented above, it is respectfully submitted that claims 1-25 and 28-33, comprising all of the currently pending claims, patentably distinguish over the cited art. Accordingly, it is respectfully requested that the claims be allowed and the application be passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by

telephone, Applicant's undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, Applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

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Enclosures: Replacements Sheets (2) including Figures 1-2 and 7-8, with amendments to Figures 1 and 7.